

**BEFORE THE  
Federal Communications Commission  
WASHINGTON, D.C.**

In the Matter of	)	
	)	
Section 68.4(a) of the Commission's Rules	)	
Governing Hearing Aid Compatible Telephones	)	WT Docket No. 01-309
	)	RM-8658
	)	

**REPLY COMMENTS OF THE  
CELLULAR TELECOMMUNICATIONS & INTERNET ASSOCIATION**

Michael F. Altschul  
Senior Vice President & General Counsel

Andrea D. Williams  
Assistant General Counsel

**CELLULAR TELECOMMUNICATIONS  
& INTERNET ASSOCIATION**  
1250 Connecticut Avenue, N.W.  
Suite 800  
Washington, D.C. 20036  
(202) 785-0081

Its Attorneys

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The Cellular Telecommunications & Internet Association (“CTIA”)<sup>1</sup> hereby replies to the comments filed in response to the Notice of Proposed Rulemaking released in the above-captioned proceeding.<sup>2</sup>

**INTRODUCTION**

There is a common theme among the comments filed in response to the Notice: the fundamental and mutual goal of usability. While industry and consumer commenters may differ with respect to the appropriate methodologies for achieving this goal, many commenters concur that the wireless industry cannot solve this issue in a vacuum and any progress on this issue requires the concerted efforts of both the hearing aid and wireless industries.<sup>3</sup> Many

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<sup>1</sup> CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the association covers all Commercial Mobile Radio Service (“CMRS”) providers and manufacturers, including cellular, broadband PCS, ESMR, as well as providers and manufacturers of wireless data services and products.

<sup>2</sup> In the Matter of Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309 RM-8658, Notice of Proposed Rulemaking, FCC 01-320 (rel. Nov. 14, 2001) (“Notice”).

<sup>3</sup> See Comments of the Telecommunications Industry Association (“TIA Comments”), at 12-15; Comments of AT&T Wireless Services (“ATTWS Comments”), at 5; Comments of Cingular Wireless (“Cingular Comments”), at 6; Sprint PCS Comments, at 11-13; Comments of Matsushita Electric Corporation of America (“Panasonic Comments”), at 5, 9-10; Comments of the Rehabilitation Engineering Research Center on Telecommunications Access (“RERC

industry commenters agree with CTIA that addressing the immunity level of hearing aids is the most critical and foremost element of any methodology or approach.<sup>4</sup> As several industry commenters demonstrated in the technical analyses accompanying their comments, revoking or limiting the statutory exemption for mobile phones will not achieve the desired result of usability. Moreover, anecdotal evidence of two or three digital wireless phones that a few consumers claim to be hearing aid compatible does not demonstrate that it is technologically feasible to provide internal coupling and at the same time mitigate RF interference between all digital wireless phones and all hearing aids.

It is not necessary for the U.S. government to reinvent the wheel with respect to resolving the technical issues. The Australian and European governments, as well as international standards-setting bodies, provide the Commission and the FDA with useful guidance and a roadmap on how to address this issue in a reasonable and technically sound manner.

## **I. THE EVIDENCE IN THE RECORD DO NOT SUPPORT REVOCATION OR LIMITATION OF THE STATUTORY EXEMPTION**

In order to revoke or limit mobile phones' exemption from the Hearing Aid Compatibility Act, the Commission must find, among other things, that compliance with the HAC Act is technologically feasible.<sup>5</sup> Several commenters, including CTIA, provide empirical data and extensive technical analyses that clearly demonstrate it is not technically feasible to provide hearing aid compatibility, *i.e.*, internal coupling which requires creation of an

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Comments”), at 20, and Comments of the Arizona Commission for the Deaf and Hard of Hearing (“ACDHH Comments”), at 2.

<sup>4</sup> See TIA Comments, at 12-23; Sprint PCS Comments, at 11-14; Panasonic Comments, at 7-9; and ANSI Comments, at Section IV.

<sup>5</sup> See 47 U.S.C. § 610(C)(ii) (2001).

electromagnetic field, and at the same time provide a low level of RF interference between the digital wireless phone and hearing aid, without compromising the operational effectiveness of digital wireless technologies and networks.<sup>6</sup>

Several consumer commenters claim that it is technologically feasible to achieve compatibility between digital wireless telephones and hearing aids. However, they provide very little, if any evidence, to support their contention.”<sup>7</sup> They offer anecdotal evidence of two or three digital wireless phones that some consumers have found to provide usability which they claim equates to hearing aid compatibility.<sup>8</sup> Such evidence does not provide an adequate or reasonable basis for revoking or limiting the statutory exemption for all digital wireless phones. Furthermore, some consumer commenters acknowledge additional research is needed, and that they do not have the expertise or facilities to determine conclusively whether the phones cited in their comments are “proof of the technical feasibility of compatible phones.”<sup>9</sup> Without empirical data, the Commission can only conclude that there is no factual basis to revoke the current exemption for all digital wireless phones.<sup>10</sup>

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<sup>6</sup> See TIA Comments, at 7-18; Appendix A of Sprint PCS Comments; Panasonic Comments, at 6-9; CTIA Comments, at 10-16; and Cingular Comments, at 4-6.

<sup>7</sup> RERC Comments, at 18-19. See also Comments of the Alexander Graham Bell Association for the Deaf and Hard of Hearing (“AG Bell Comments”), at 8-9; Comments of the Consumer Action Network (“CAN Comments”), at 2-3; Comments of Cochlear Americas (“Cochlear Americas Comments”) at 11-12; and Comments of the National Association of the Deaf (“NAD Comments”), at 2.

<sup>8</sup> Id.

<sup>9</sup> AG Bell Comments, at 9. See also ACDHH Comments at 2 (acknowledging that it does not have the technical proficiency to address the technical issues but suggesting that hearing aid manufacturers and other industries have such technical expertise and should coordinate their efforts.)

<sup>10</sup> Interestingly, neither the phone manufacturers nor the wireless service providers have claimed publicly that the phones cited by several consumers are “hearing aid compatible.”

## II. FCC’S CONSULTATION WITH THE FDA IS IMPERATIVE.

In its comments, the Hearing Industry Association concedes, “There is no dispute that the interference problem is real.”<sup>11</sup> While HIA contends that hearing aids have improved significantly in recent years, they claim that the “exact reasons for [the interference] and the best cure are less clear.”<sup>12</sup> Contrary to HIA’s claims, the evidence in the record clearly documents what causes the phenomenon of RF interference between digital wireless phones and hearing aids. Moreover, the Australian and European studies cited in the record clearly demonstrate a scientific and reasonable approach to resolving the interference issue: first and foremost, develop an immunity standard for hearing aids against RF interference.

While HIA recommends that the Commission revoke the HAC exemption and place the burden solely on phone manufacturers,<sup>13</sup> such recommendations, standing alone, serve only to deflect the Commission’s examination of the hearing aid manufacturers’ role and responsibility in resolving compatibility issues, and are counter-productive to achieving the mutual goal of usability of hearing aids not only with digital wireless phones but also other digital devices.

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Testing of the ANSI 63.19 standard conducted at the University of Oklahoma’s Center for Electromagnetic Compatibility (“EMC Center”) indicated that certain hearing aid and phone combinations will work together, and it appears that the consumers’ experience with these phones and their hearing aids are such a combination. Without knowing the immunity level of the hearing aids, it is very difficult to determine whether the usability of the phones can be attributed to the hearing aid, the phone or a combination of both. In addition, we also know from the Australian studies and the EMC Center’s studies that clam shell handset design and CDMA technology offer better usability to many hearing aid users. CTIA does not suggest that one digital technology is better than another or that all phones should be designed with the clam shell, but rather that the immunity level of hearing aids along with the propagation of certain digital technologies will require different approaches or solutions to achieve the mutual goal of usability.

<sup>11</sup> Comments of the Hearing Industry Association (“HIA Comments”), at 4.

<sup>12</sup> Id.

<sup>13</sup> See HIA Comments, at 1.

As the Australian and European experiences demonstrate, “hearing aid manufacturers are an indispensable party”<sup>14</sup> and their concerted effort, particularly to address the immunity level of hearing aids, is the first step in resolving this issue. Acknowledging that the FDA, not the FCC, has jurisdiction over hearing aid devices and manufacturers, several commenters realize that the FCC will need the assistance of the FDA to ensure that hearing aid manufacturers remain fully engaged in the process of resolving this issue.<sup>15</sup> CTIA supports the FDA’s involvement in this rulemaking proceeding. The FDA’s participation is necessary, particularly since studies show that the development and implementation of a hearing aid immunity standard is the first and foremost step in resolving the interference problem.<sup>16</sup> The FCC should act in this proceeding to ensure the FDA’s participation and cooperation in this process. Whether the FDA and FCC initiate a formal inter-agency proceeding or engage in less formal discussions, the goal is to ensure that hearing aid manufacturers and the wireless industry work in tandem to address the interference issue.

### **III. THE AUSTRALIAN AND EUROPEAN APPROACHES SHOULD BE AFFORDED SIGNIFICANT WEIGHT IN THIS PROCEEDING.**

In their comments, TIA and CTIA examine the Australian and the European efforts to address the RF interference phenomenon between digital wireless phones and hearing aids. These international efforts, which relied heavily on several scientific research studies and much technical analysis, demonstrate that the interference problem can be reduced dramatically by increasing the hearing aid immunity level through the development of hearing aid protective

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<sup>14</sup> Sprint PCS Comments, at 20.

<sup>15</sup> See RERC Comments at 27-28; Panasonic Comments, at 9-10; Sprint PCS Comments, at 18 and 20-21; Cingular Comments, at note 1, ATTWS Comments, at 5; and CTIA Comments, at 16.

<sup>16</sup> See CTIA Comments, at note 36.

circuitry designs and establishing hearing aid immunity standards.<sup>17</sup> CTIA concurs with TIA that the same basic approach could work in the United States provided that the Commission and the FDA refrain from trying “to reinvent the wheel” in addressing the interference problem.

CTIA agrees with Sprint PCS that

Hearing aid/digital handset compatibility is not an issue confined to the U.S. Given that both hearing aids and digital handsets are manufactured for the global market...the Commission should take advantage of this [Australian] work and expertise....[A] global solution needs to be developed given that hearing aids and handsets are designed and produced for the world market.<sup>18</sup>

The Australian and European efforts clearly provide effective models and offer the opportunity for a global approach to managing the RF interference phenomenon. Accordingly, the Commission and the FDA should afford the Australian and European approaches significant weight in their inter-agency deliberations and this rulemaking proceeding.

#### **IV. THE ADOPTION OF TECHNICAL STANDARDS, A NEGOTIATED RULEMAKING FOLLOWED BY AN INDUSTRY CONSUMER FORUM ARE WELL-INTENDED BUT NOT PRACTICAL.**

RERC and other consumer commenters support the Commission adopting a technical standard for wireless hearing aid compatibility that provides internal inductive coupling.<sup>19</sup> While they believe that the adoption of a wireless HAC technical standard will accommodate the embedded base of hearing aids with telecoils, this approach is fundamentally flawed for several reasons.

First, the record evidence demonstrates that hearing aid compatibility, *i.e.*, internal inductive coupling, and RF interference are two distinct concepts, and that “telecoil coupling

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<sup>17</sup> See TIA Comments, at 18-21.

<sup>18</sup> See Sprint PCS Comments, at 21.

<sup>19</sup> See RERC Comments, at 23-24; Cochlear Americas Comments, at 7-8; CAN Comments, at 2; and AG Bell Comments, at 13

alone will not solve the problem for many hearing aid wearers today, because the world and products have moved on.”<sup>20</sup> It is virtually impossible to develop a wireless HAC standard that would provide internal coupling with a low level of RF interference, particularly when the circuitry design and technical parameters of hearing aid immunity levels fluctuate dramatically among hearing aids sold in the U.S. market. Without stabilizing the immunity level of hearing aids, the wireless industry would encounter the same problem that it has encountered in other areas when it attempts to provide backward compatibility to outdated technology that has no standard protocols around which a standard interface with digital wireless phones can be designed: what does the industry build to?<sup>21</sup>

Second, even if the Commission required every digital wireless phone to comply with a HAC wireless standard for internal inductive coupling, this standard would affect a very small number of hearing aids, *i.e.*, only 20 percent of hearing aids are equipped with telecoils which are necessary for inductive coupling. As TIA correctly states in its comments, “the allocation of precious [research and development] resources should look forward, not backward. To commit a substantial portion of limited resources to technology that may soon be out-of-date or in limited use is to misallocate such resources.”<sup>22</sup>

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<sup>20</sup> TIA Comments, at 4. See also ANSI Comments, at Section IV.

<sup>21</sup> The Wireless TTY Forum experienced a similar issue in its attempt to provide backward compatibility of digital wireless phones to 45.45 Baudot TTY devices. While TTY standards had been adopted as early as 1988, TTY manufacturers refused to implement such standards. Thus, there were literally no standard TTY protocols for the industry to develop the appropriate interface that would allow a digital wireless phone to pass the TTY Baudot signal at a character error rate of less than 1 percent. After two years of heated debate on this issue, the wireless industry and consumer stakeholders convinced participating TTY manufacturers to provide, at a minimum, a list of protocols common to TTY devices. Although it took approximately two years, this list of common TTY protocols has been essential in the development of a technical standard, *i.e.*, the Lucent and Ericsson TTY solutions.

<sup>22</sup> TIA Comments, at 22.



Finally, experience has shown that technical standards imposed by regulatory fiat often are inefficient and counter-productive, because they address the then current state of technology and usage. Too often, such regulatory mandates cannot keep up with advancements in technology, and the result is a regulatory technical standard that is “anachronistic or useless.”<sup>23</sup>

RERC claims that another joint industry-consumer process is necessary and recommends that the Commission conduct a six-month negotiated rulemaking proceeding with the purpose of setting forth general rules and timelines, followed by an on-going industry-consumer forum<sup>24</sup>.

While a negotiated rulemaking followed by an on-going industry consumer forum may be well intentioned, CTIA is concerned that such an approach too often results in further delay. Moreover, to be successful, the suggested approach assumes that: 1) hearing aid manufacturers will voluntarily participate in a negotiated rulemaking and industry consumer forum; and 2) that the Commission, consumers, hearing aid manufacturers and the wireless industry have resources required to support on-going forums outside of the standards-setting bodies. CTIA concurs with Sprint PCS’s analysis that legal and regulatory proceedings do not solve technical problems, rather it is up to scientists and engineers and their organizations.<sup>25</sup>

CTIA maintains that the Australian and European approaches, which have already addressed the same technical challenges, provide the most appropriate methods for achieving the mutual goal of usability, particularly since hearing aids and digital wireless phones are each designed for global markets. Accordingly, CTIA strongly urges the Commission and FDA to use

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<sup>23</sup> TIA Comments, at 22-23.

<sup>24</sup> RERC Comments, at 28-29.

<sup>25</sup> See Sprint PCS Comments, at 2.

the Australian and European experiences to guide the U.S. government in achieving the mutual goal of usability.

### **CONCLUSION**

For the reasons set forth above, CTIA strongly urge the Commission to adopt CTIA's recommendations as set forth in its comments filed on January 11, 2002.<sup>26</sup>

Respectfully submitted,

**CELLULAR TELECOMMUNICATIONS  
& INTERNET ASSOCIATION**

Andrea D. Williams  
Assistant General Counsel

Michael F. Altschul  
Senior Vice President, General Counsel

1250 Connecticut Avenue, N.W.  
Suite 800  
Washington, D.C. 20036  
(202) 785-0081

Its Attorneys

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<sup>26</sup> See CTIA Comments, at 25.

I hereby certify that I have this 11th day of February, 2002, served a copy of the foregoing Cellular Telecommunications & Internet Association's Reply Comments, in WT Docket No. 01-309, by United States Mail, first class, postage prepaid, on the persons listed below.

Matthew J. Flanigan  
President  
1300 Pennsylvania Avenue, NW  
Suite 350  
Washington, DC 20004

Dan Hoolihan  
Chair, ANSI ASC C63 SC8  
Hoolihan EMC Consulting  
P.O. Box 367  
Lindstrom, MN 55045

Luisa L. Lancetti  
Vice President, PCS Regulatory  
Affairs  
401 9th Street, NW, Suite 400  
Washington, DC 20004

J.R. Carbonell  
Carol L. Tacker  
David G. Richards  
5565 Glenridge Connector  
Suite 1700  
Atlanta, GA 30342

Ellen P. Goodman  
Russell D. Jessee  
Covington & Burling  
1201 Pennsylvania Avenue, NW  
Washington, DC 20004

Ronald H. Vickery  
404 Benton Drive  
Rome, GA 30165

Stephen Berger, NCE  
President AAES  
167 Village Street  
Medway, MA 02053

Joan Waldron  
Disabled American for the Nation  
since 1987  
624 Republic Drive  
Fort Collins, Colorado 80526

Claude L. Stout  
Executive Director  
Telecommunications for the Deaf,  
Inc.  
8630 Fenton Street, Suite 604  
Silver Spring, MD 20910-3803

Harry C. Martin  
Attorney for Chase Radio Properties,  
L.L.C.  
Fletcher, Heald & Hildreth, P.L.C.  
1300 N. 17th Street, 11th Floor  
Arlington, VA 22209

Douglas I. Brandon  
AT&T Wireless Services, Inc.  
1150 Connecticut Avenue, NW  
4th Floor  
Washington, DC 20036

Timothy Creagan  
Co-Chair, COR  
Self Help for Hard of Hearing People  
7910 Woodmont Avenue, Suite 1200  
Bethesda, MD 20814

Beth Wilson, Ph.D.  
Executive Director, SHHH  
7910 Woodmont Avenue, suite 1200  
Bethesda, MD 20814

Judith E. Harkins, Ph.D.  
Co-Principal Investigator  
RERC on Telecommunications  
Access  
Gallaudet University  
800 Florida Avenue, NE  
Washington, DC 20002

Consumer Action Network  
Kelby Nathan Brick, Esq.  
Brick Law Office  
14440 Cherry Lane Court, Suite 200  
Laurel, MD 20707

Peter Tannenwald  
Irwin, Campbell & Tannenwald, P.C.  
1730 Rhode Island Avenue, NW,  
Suite 200  
Washington, DC 20036-3101

Gary Wallace  
Vice President, External Affairs  
ATX Technologies, Inc.  
8550 Freeport Parkway  
Irving, Texas 75063-2547

John E. Logan  
1050 Connecticut Avenue, NW  
Tenth Floor  
Washington, DC 20036

Donna L. Sorkin  
Vice President, Consumer Affairs  
Cochlear Americas  
61 Inverness Drive East  
Suite 200  
Englewood, CO 80112

Nancy J. Bloch  
National Association of the Deaf  
814 Thayer Avenue  
Silver Spring, MD 20910-4500

Lawrence W. Roffee  
Executive Director  
U.S. Access Board  
1331 F Street, NW, Suite 1000  
Washington, DC 20004

Harry D. Harper  
Naval Surface Warfare Center  
Carderock Division  
Code 5104/5105 Bldg 2 Room 306B  
West Bethesda, MD 20817-5700

Mr. George DeVilbiss  
DeVilbiss Development Company,  
Ltd.  
3056 Hazelton St  
Falls Church VA 22044

/s/ \_\_\_\_\_  
Dustun L. Ashton